RACER™

How Government Agencies Use *RACER*

Introduction to *RACER*

The Remedial Action Cost Engineering and Requirements (*RACER*™) software is a Windows-based environmental remediation cost estimating system. *RACER* is a system that estimates costs for all phases of remediation including studies, design, construction, and O&M. *RACER* currently is used by the EPA, DoD, DoE, private sector owners/operators, state regulators, engineers, consulting firms and constructors as a preferred estimating and negotiating tool. Compared to manual estimates, *RACER* is less prone to errors, faster, and more efficient in comparing alternatives. A significant tool for cost management and cost control, *RACER* has tested accurate to within 4% of actual construction costs.

RACER was originally designed and funded by the Air Force to be used in their budgetary and negotiating processes. They have integrated *RACER* into their Environmental Management Program as seen in Table 1.

### Table 1. Summary of Uses of *RACER in AF Environmental Management Program*

Use	Method of System Use	Likely Phase of IRP When Used
Planning Remediation Efforts	Budget estimates are developed during the planning of each remediation phase by using *RACER*. Estimates are usually developed by individual site using the required parameters and system defaults.	Prior to budgeting for Site Characterization/ Remedy Selection; Remediation; and Long-Term O&M activities.
Selecting Site Investigation Methods	Site characterization techniques and requirements may be compared to determine the most cost-effective approaches.	Prior to when the actual site characterization commences.
Selecting Remediation Technologies and Scenarios	Different remediation technologies and scenarios may be evaluated in *RACER* for cost comparison purposes using required and secondary parameters.	During the alternative evaluation and selection phase.

Use	Method of System Use	Likely Phase of IRP When Used
Developing Detailed Cost Estimates to Support Regulatory Negotiation and/or Pre-Construction Activities	Detailed cost estimates for a preferred or chosen remedy may be developed based on a conceptual and/or final design. The estimates are developed by individual site using required and secondary parameter and perhaps user-defined costs.	During regulatory negotiation and/or the detailed design/ pre-construction/pre-bid phases.
Developing Detailed Cost Estimates to Support Contractor Bid Negotiations	Construction bid estimates may be developed using the detailed cost estimate and comparing and modifying it based on contractor bids. *RACER* is used at its most detailed level, by entering user-defined costs and modifying default unit costs to reflect contractor bid prices.	During the remedial Construction and O&M contract bidding phases.
Developing Historical Cost Compilations	Actual remediation cost data for any phase of a project may be entered into *RACER* to track actual costs.	Anytime after actual cost data is collected (preferably in a format to facilitate entering it in the system).
Remediation Budget Estimating to Support Annual Congressional Air Force Requirements	Individual site estimates are prepared using *RACER* by entering the required (and perhaps secondary) parameters. Estimates are rolled up at the project, site, MAJCOM and Air Staff Level.	Anytime from the site characterization to the long-term O&M phases. As projects moves further along, the accuracy of estimates (and therefore the budget) will increase due to better input data.

One of the current primary uses for *RACER* is in developing Cost to Complete estimates for the DoD Services budget cycle. This cycle is depicted in Exhibit 1. The primary period of activity for budget estimating is in the February – April timeframe. In keeping with the goals of ensuring that cost estimates are consistent and that government staff are provided with easy-to-use tools in performing their jobs, it has been determined that new releases of *RACER* and other cost management tools should occur in the December timeframe. This would allow inclusion of the newest cost database update and allow users to become familiar with new systems prior to preparing estimates for the February – April budgeting exercise and training on major system changes.

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Exhibit 1. Services Budget Cycle
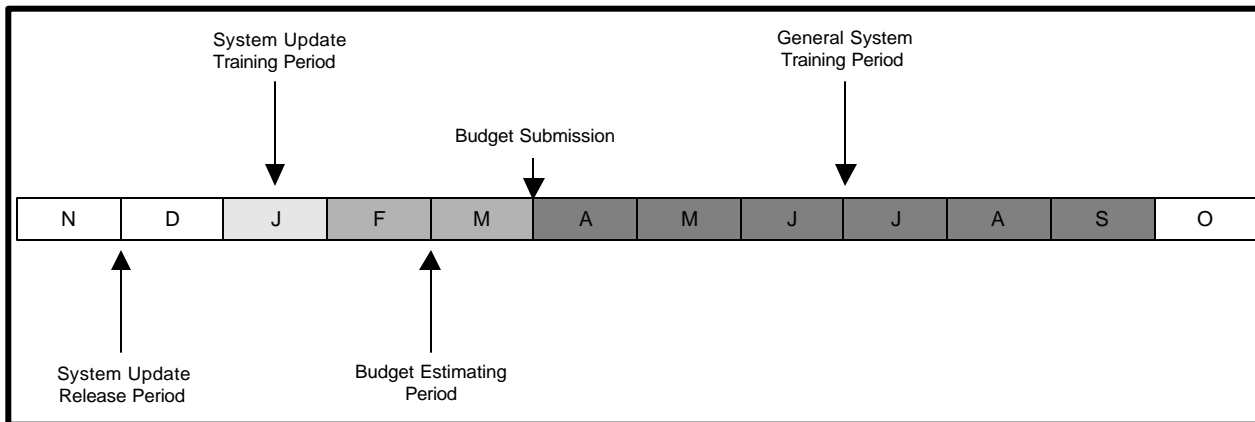
As stated previously the DoD uses *RACER* in their budgeting and negotiating processes. The following explains in detail the way *RACER* is used throughout these processes.

The Budgeting Process (Exhibit 2)

1. The typical budget process for DoD starts with the Service Headquarters (e.g. Air Force) developing an annual budgeting schedule for all of the district locations.

2. After incorporating any new models and or changes to the program, *RACER* is released on or around December 15 or each year to all of the DoD district locations and headquarters.

3. The Service Commands identify current and new projects needing budget updates.

4. DoD Project managers develop new *RACER* projects for new budget estimates and/or the DoD Project Managers review/revise existing *RACER* estimates if needed.

5. Once the Project Managers have completed their estimates, they are forwarded to the Service Command Headquarters (e.g. AF MAJCOMS) that review the *RACER* budget estimates. Individual Service agency auditors review the budget estimates and *RACER* runs.

6. If the estimates pass their review, the Service Command submits the budgets to Service Headquarters to begin the negotiations/revisions within the services. If the estimates do not pass the review, the Services revise the estimates and re-submit them to the Service Command Headquarters to be subjected to the review process all over again.

7. The Services then submit the budgets to the Office of the Secretary of Defense (OSD).

8. The OSD submits the budgets to Congress for a Congressional and GAO review.

9. At this time, the budget estimates and *RACER* runs are subjected to a GAO review at the Service level.

10. At the end of the budgeting process, the individual Services and OSD receive feedback on the audits and reviews.

The Negotiating Process (Exhibit 3)

1. During the negotiating process, the Government uses *RACER* to develop and Independent Government Estimate (IGE) for the Statement of Work (SOW)

2. The contractor(s) develop a cost proposal for the SOW

3. The Government then evaluates the contractor's proposal against the *RACER* IGE

4. If the cost proposal is within the competitive range, the Government negotiates with the contractor based on the cost proposal and the *RACER* IGE. If the cost proposal is not within the competitive range, the Government provides feedback to the contractor(s) involved in the proposal process and the process starts all over again until the cost proposals fall within the competitive range.

Exhibit 2

BUDGETING PROCESS

Service Headquarters (e.g. Air Force) Develop Annual Budgeting Schedule → RACER Released on/around December 15th of Each Year → Service Commands Identify Current and New Projects Needing Budget Updates → {DOD PM's Develop New RACER Projects for New Budget Estimates; DOD PM's Review/Revise Existing RACER Estimates} → Service Command Headquarters (e.g. AF MAJCOMS) Review RACER Budget Estimates → Estimates Pass Review? → Yes → Service Command Submit Budgets to Service Headquarters

Estimates Pass Review? → No → Services Revise Estimates and Re-Submit

Individual Service Agency Auditors Review Budget Estimates and RACER Runs

Negotiation/ Revision of Budgets Within Services → Services Submit Budgets to OSD → OSD Negotiates/ Revises Budgets with Services → OSD Submits Budgets to Congress → Congressional and GAO Review → GAO Review of Budget Estimates and RACER Runs at the Service Level → Feedback on Audits and Reviews to Individual Services and OSD
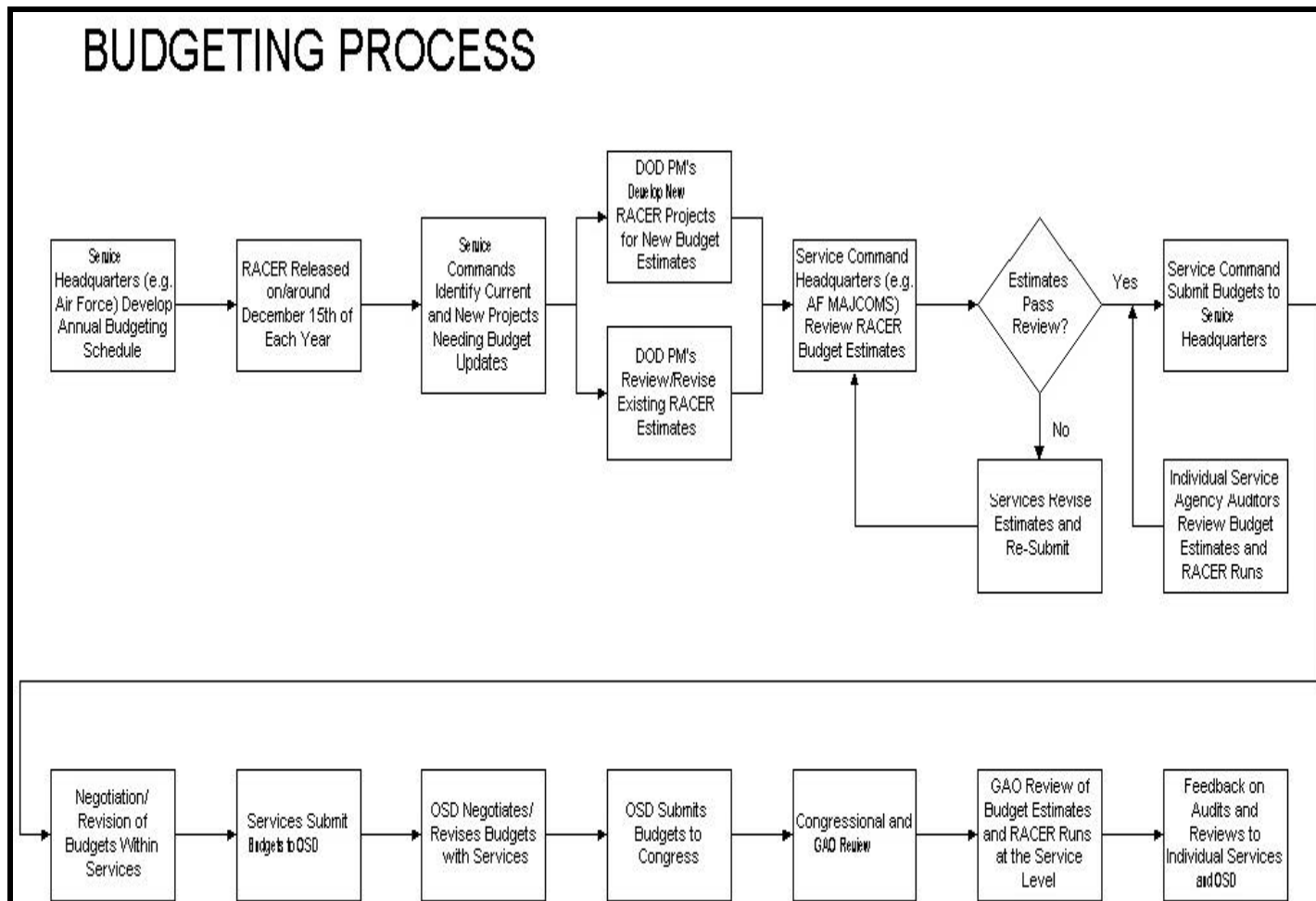
Exhibit 3

NEGOTIATION PROCESS

| Government Uses RACER to Develop IGE for SOW | → | Contractor(s) Develops Cost Proposal for SOW | → | Government Evaluates Contractor Proposal Against RACER IGE | → | Within Competitive Range? | —Yes→ | Government Negotiates with Contractor Based on Cost Proposal and RACER IGE |

No

Government Provides Feedback to Contractor(s)